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CORRECTION OF BURNING INDEX FOR THE EFFECTS OF ALTITUDE, ASPECT, AND TIME OF DAY

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Fire danger measurement, conceived as a planning tool, has provided a systematic basis for the placement of men and facilities in the Region One fire control organization for nearly 20 years. The chief component of fire danger is burning index -- the numerical expression of forest inflammability. An accurate rating of inflammability at any one place is obtained with the Northern Rocky Mountain Burning Index Meter which integrates measurements of four factors: fuel moisture, wind, relative humidity, and calendar date.

Although the only general use of burning index to date has been for planning, the great potential use is for dispatching, as a means of predicting the probable behavior of individual fires. Use of burning index to predict fire behavior depends on the ability to (1) convert burning index measured at one place to probable burning index at another, and (2) project current burning index into the future. Relatively few men have been able to do these two things successfully on the basis of judgment gained through extensive firefighting experience. Recent work in fire research, however, has produced burning index conversion tables which less experienced men can use to improve their judgment.

Daily Variations in Burning Index

Research at the Priest River Experimental Forest has shown the general effects of altitude and aspect on fuel moisture, relative humidity, and wind velocity at all hours of the day and night. The three factors were measured continuously at paired weather stations located on north and south aspects at three elevations and at a nearby station in the valley bottom.

General results, showing conditions typical of settled, midsummer weather, are given in the following table. This table is a repetition of Hayes' published findings[1/], but the principles involved are important enough to warrant inclusion here. These principles have been found to apply throughout Region One.

1/ HAYES, G. L. Influence of altitude and aspect on daily variations in factors of fire danger. U. S. Dept. Agr. Cir. No. 591. February 1941.

Table 1. Pattern of burning index variation

Period of day	Aspect	Other stations as compared with valley bottom		
		Lower slopes	Middle slopes	Upper slopes
Morning (0600-1000)	North	Slightly to much lower	Slightly higher to slightly lower	Slightly higher to slightly lower
	South	Slightly higher	Much higher	Moderately to slightly higher
Day (1000-1800)	North	Much lower	Moderately lower	Moderately lower
	South	Slightly higher	Moderately to slightly higher	Very slightly higher to slightly lower
Evening (1800-2200)	North	Much lower	Moderately to very slightly lower	Moderately to slightly lower
	South	Very slightly higher	Slightly higher	Slightly lower to no difference
Night (2200-0600)	North	Much to slightly lower	Very slightly lower to slightly higher	Very slightly lower to slightly higher
	South	Very slightly to slightly higher	Slightly to much higher	Very slightly to moderately higher

Preparation of Burning Index Conversion Tables

Within the last year data from the altitude and aspect study were further analyzed for the purpose of providing, if possible, improved aids for use in predicting fire behavior. Burning index itself, rather than its separate factors, was compared among the seven stations. Ratings affected by rain were not considered.

The attached tables are a preliminary result of the re-analysis.[2/] Tables A-8 to A-14 show how to convert valley bottom or mountain top burning index to probable burning index at another location. The "0-hour" columns show what value must be added to any hourly B.I. rating to obtain probable B.I. for the same hour at a desired location. The "1-hour" to "8-hour" columns show what value must be added to measured B.I. to obtain average burning index at a desired location for 1 to 8 hours in the future. Tables A-15 and A-18 show what value must be added to any hourly B.I. rating, measured at a valley bottom or mountain top station, to obtain probable burning index for any subsequent hour at the same station. Tables A-17 and A-19 give the value which must be added to give probable average B.I. for 1 to 8 hours ahead at a valley bottom or mountain top station.

2/ BARROWS, J. S. Fire behavior in northern Rocky Mountain forests. NRM Forest and Range Experiment Station, Station Paper No. 29. June 1951.

Use of Burning Index Conversion Tables

Use of the burning index conversion tables is best explained by means of an illustration: A dry thunderstorm occurs at 2300 after a hot, dry day. At 2315 a fire is reported on a south-facing slope about midway between the valley bottom and the average major ridgetop elevation. Burning index at the ranger station at 1630 was 68. The ranger station is located on a major stream flat.

The district dispatcher refers to table A-15 in the left-hand time column at 1600. Following across the 1600 line to the right, he reads -14 in the 2300 column. Subtracting 14 from 68, he concludes that B.I. when the fire was discovered was probably about 54. From the location of the fire and his knowledge of the country, the dispatcher estimates that the fire can be manned by about 0500. Therefore he refers to table A-9 at 2300 and reads in the "6-hour" column (2300 + 6 hours = 0500) a correction of +9. This means that the average burning index on a middle south slope from 2300 to 0500 will probably be 9 points higher than the 2300 B.I. at the ranger station, or about 63.

The following are important facts to remember in the use of burning index conversion tables:

1. The tables apply specifically to the area immediately surrounding the Priest River Experimental Forest in northern Idaho. The principles appear to apply generally, but the specific values may not.

2. The tables apply only during typical settled midsummer weather. Rain upsets the relationships for 12 to 24 hours in the valley bottom and on south slopes, and for 36 to 48 hours on north aspects after the day on which the rain ceases.

3. It is assumed that increased accuracy in estimating fire behavior is valuable enough to warrant measuring burning index when fires are expected or discovered in addition to the regular daily measurement required for planning.

4. Projection of burning index more than a few hours into the future by means of tables is not a sound procedure.

5. During perfectly clear weather, hour-to-hour changes in burning index are probably somewhat greater than those shown, slightly less during rather cloudy weather.

6. When valley bottom burning index goes very low during the night and early morning, the middle and upper slopes will have much higher burning index corrections than shown.

7. Occasionally unknown conditions cause south aspects, especially in the thermal belt and above, to be relatively much more dangerous than the correction tables indicate.

8. Valley bottoms and lower slopes which are shaded by adjacent ridges probably should be considered equivalent to lower north slopes.

9. Differences in burning index of less than five points are probably not significant.

10. The tables are guides to good judgment, not substitutes for it.

Table A-8. Correction to Valley Bottom burning index which will give average burning index in the lower one-third of a mountain slope for a given number of hours after measurement.

Time of B.I. Measurement	Correction Factor According to Time and Aspect															
	0 hour		1 hour		2 hours		3 hours		4 hours		5 hours		6 hours		7 hours		8 hours	
	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S
Morning																		
0600-0659	- 4	+ 4	- 6	+ 4	- 7	+ 3	- 8	+ 3	-10	+ 3	-11	+ 3	-12	+ 3	-12	+ 3	-13	+ 3
0700-0759	- 7	+ 3	- 9	+ 3	-10	+ 3	-11	+ 3	-12	+ 3	-13	+ 3	-13	+ 3	-14	+ 3	-14	+ 3
0800-0859	-10	+ 3	-12	+ 3	-13	+ 3	-14	+ 3	-14	+ 3	-14	+ 3	-15	+ 3	-15	+ 3	-15	+ 3
0900-0959	-13	+ 3	-14	+ 3	-15	+ 3	-15	+ 3	-15	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3
Day																		
1000-1059	-15	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3
1100-1159	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-16	+ 3	-17	+ 3	-17	+ 3	-17	+ 2	-16	+ 2
1200-1259	-16	+ 3	-16	+ 3	-16	+ 3	-17	+ 3	-17	+ 3	-17	+ 3	-17	+ 2	-17	+ 2	-16	+ 2
1300-1359	-16	+ 3	-17	+ 3	-17	+ 3	-17	+ 3	-17	+ 3	-17	+ 2	-17	+ 2	-16	+ 2	-16	+ 2
1400-1459	-17	+ 3	-17	+ 3	-17	+ 3	-17	+ 2	-17	+ 2	-17	+ 2	-16	+ 2	-16	+ 2	-16	+ 2
1500-1559	-17	+ 3	-17	+ 2	-17	+ 2	-17	+ 2	-17	+ 2	-16	+ 2	-16	+ 1	-16	+ 1	-16	+ 1
1600-1659	-17	+ 2	-17	+ 2	-17	+ 2	-17	+ 2	-16	+ 1	-16	+ 1	-15	+ 1	-15	+ 1	-14	+ 1
1700-1759	-17	+ 2	-17	+ 2	-16	+ 1	-16	+ 1	-15	+ 1	-15	+ 1	-14	+ 1	-14	+ 1	-13	+ 1
Evening																		
1800-1859	-16	+ 1	-16	+ 1	-16	+ 1	-15	+ 1	-15	+ 1	-14	0	-13	+ 1	-13	+ 1	-12	+ 1
1900-1959	-16	+ 1	-16	+ 1	-15	+ 1	-14	+ 1	-14	+ 1	-13	+ 1	-12	+ 1	-12	+ 1	-11	+ 1
2000-2059	-15	+ 1	-15	+ 1	-14	+ 1	-13	+ 1	-12	+ 1	-12	+ 1	-11	+ 1	-10	+ 1	- 9	+ 1
2100-2159	-14	+ 1	-13	+ 1	-12	+ 1	-12	+ 1	-11	+ 1	-10	+ 1	- 9	+ 1	- 9	+ 2	- 8	+ 2
Night																		
2200-2259	-12	+ 1	-12	+ 1	-11	+ 1	-10	+ 1	- 9	+ 1	- 9	+ 1	- 8	+ 2	- 7	+ 2	- 7	+ 2
2300-2359	-11	+ 1	-11	+ 1	-10	+ 1	- 9	+ 1	- 8	+ 1	- 7	+ 2	- 7	+ 2	- 6	+ 2	- 6	+ 2
2400-2459	-10	+ 1	- 9	+ 1	- 8	+ 1	- 7	+ 2	- 7	+ 2	- 6	+ 2	- 6	+ 3	- 6	+ 2	- 6	+ 3
0100-0159	- 8	+ 1	- 7	+ 2	- 6	+ 2	- 6	+ 2	- 5	+ 2	- 6	+ 3	- 6	+ 3	- 7	+ 3	- 8	+ 3
0200-0259	- 6	+ 2	- 6	+ 2	- 5	+ 2	- 5	+ 3	- 4	+ 3	- 5	+ 3	- 6	+ 3	- 7	+ 3	- 7	+ 3
0300-0359	- 5	+ 2	- 5	+ 2	- 4	+ 3	- 4	+ 3	- 5	+ 3	- 6	+ 3	- 7	+ 3	- 8	+ 3	- 9	+ 3
0400-0459	- 4	+ 3	- 4	+ 4	- 4	+ 4	- 5	+ 4	- 6	+ 3	- 7	+ 3	- 8	+ 3	- 9	+ 3	-10	+ 3
0500-0559	- 3	+ 4	- 4	+ 4	- 5	+ 4	- 6	+ 4	- 7	+ 3	- 9	+ 3	-10	+ 3	-11	+ 3	-11	+ 3

TO USE TABLE:

1. Select time of burning index measurement in valley bottom.
2. To estimate burning index at another location at same time measurement is taken, read correction for proper aspect in 0 hour column. Example: At 1600 B.I. in valley bottom is 59. At the same time estimated B.I. on lower south slope is +2 or 61.
3. To estimate average burning index for a given number of hours at another location, read correction for proper aspect in column showing length of estimate in hours. Example: At 1600 B.I. in valley bottom is 55. Average B.I. for the next 3 hours on a lower north slope will be -17 or 38.

Table A-9. Correction to Valley Bottom burning index which will give average burning index in the middle (Thermal Belt) one-third of a mountain slope for a given number of hours after measurement.

Time of B.I. Measurement	Correction Factor According to Time and Aspect															
	0 hour		1 hour		2 hours		3 hours		4 hours		5 hours		6 hours		7 hours		8 hours	
	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S
Morning																		
0600-0659	+ 5	+14	+ 4	+14	+ 3	+14	0	+14	- 1	+13	- 3	+12	- 4	+12	- 5	+11	- 5	+10
0700-0759	+ 3	+14	+ 2	+14	- 1	+13	- 3	+12	- 5	+12	- 6	+11	- 6	+10	- 7	+10	- 7	+ 9
0800-0859	0	+14	- 3	+13	- 5	+12	- 7	+11	- 7	+10	- 8	+10	- 8	+ 9	- 9	+ 8	- 9	+ 8
0900-0959	- 6	+12	- 8	+11	- 8	+10	- 9	+ 9	-10	+ 9	-10	+ 8	-10	+ 7	-10	+ 7	-10	+ 6
Day																		
1000-1059	- 9	+10	-10	+ 9	-10	+ 9	-11	+ 8	-11	+ 8	-11	+ 7	-11	+ 6	-11	+ 6	-10	+ 6
1100-1159	-11	+ 8	-11	+ 8	-11	+ 7	-11	+ 6	-11	+ 6	-11	+ 6	-11	+ 5	-10	+ 5	-10	+ 5
1200-1259	-11	+ 7	-11	+ 6	-11	+ 6	-11	+ 6	-11	+ 5	-11	+ 5	-10	+ 4	-10	+ 4	- 9	+ 4
1300-1359	-11	+ 6	-11	+ 6	-11	+ 5	-11	+ 4	-11	+ 4	-10	+ 4	- 9	+ 4	- 9	+ 4	- 8	+ 4
1400-1459	-11	+ 5	-11	+ 4	-11	+ 4	-11	+ 4	-10	+ 4	- 9	+ 4	- 9	+ 4	- 8	+ 4	- 7	+ 4
1500-1559	-11	+ 4	-11	+ 4	-10	+ 3	-10	+ 3	- 9	+ 3	- 8	+ 3	- 7	+ 3	- 7	+ 4	- 6	+ 4
1600-1659	-10	+ 3	-10	+ 3	- 9	+ 3	- 9	+ 3	- 8	+ 3	- 7	+ 3	- 6	+ 4	- 5	+ 4	- 4	+ 4
1700-1759	-10	+ 3	- 9	+ 3	- 8	+ 3	- 7	+ 3	- 6	+ 3	- 5	+ 4	- 4	+ 4	- 4	+ 4	- 3	+ 5
Evening																		
1800-1859	- 8	+ 3	- 7	+ 3	- 6	+ 3	- 5	+ 4	- 4	+ 4	- 4	+ 4	- 3	+ 4	- 2	+ 5	- 2	+ 5
1900-1959	- 6	+ 3	- 5	+ 4	- 4	+ 4	- 3	+ 4	- 3	+ 4	- 2	+ 4	- 1	+ 5	- 1	+ 5	- 1	+ 6
2000-2059	- 4	+ 4	- 3	+ 4	- 2	+ 4	- 2	+ 4	- 1	+ 5	- 1	+ 6	0	+ 6	0	+ 6	+ 1	+ 7
2100-2159	- 2	+ 4	- 2	+ 4	- 1	+ 5	- 1	+ 5	0	+ 5	0	+ 6	+ 1	+ 6	+ 1	+ 7	+ 1	+ 8
Night																		
2200-2259	- 1	+ 5	- 1	+ 5	0	+ 5	+ 1	+ 6	+ 1	+ 6	+ 1	+ 7	+ 2	+ 8	+ 2	+ 8	+ 2	+ 9
2300-2359	0	+ 5	+ 1	+ 6	+ 1	+ 6	+ 1	+ 6	+ 2	+ 7	+ 2	+ 8	+ 2	+ 9	+ 3	+ 9	+ 3	+10
2400-2459	+ 1	+ 6	+ 2	+ 6	+ 2	+ 7	+ 2	+ 8	+ 2	+ 9	+ 3	+ 9	+ 3	+10	+ 3	+10	+ 3	+11
0100-0159	+ 2	+ 7	+ 2	+ 8	+ 2	+ 8	+ 3	+ 9	+ 3	+10	+ 3	+11	+ 3	+11	+ 3	+12	+ 2	+12
0200-0259	+ 2	+ 8	+ 3	+ 9	+ 3	+10	+ 3	+11	+ 4	+11	+ 4	+12	+ 3	+12	+ 2	+12	+ 1	+12
0300-0359	+ 3	+10	+ 4	+11	+ 4	+12	+ 4	+12	+ 4	+13	+ 3	+13	+ 2	+13	+ 1	+12	- 1	+12
0400-0459	+ 4	+12	+ 4	+12	+ 4	+13	+ 4	+13	+ 3	+13	+ 2	+13	0	+13	- 1	+12	- 2	+12
0500-0559	+ 4	+13	+ 5	+14	+ 4	+14	+ 3	+14	+ 1	+14	- 1	+13	- 2	+12	- 3	+11	- 4	+11

TO USE TABLE:

1. Select time of burning index measurement in valley bottom.
2. To estimate burning index at another location at same time measurement is taken, read correction for proper aspect in 0 hour column. Example: At 1600 B.I. in valley bottom is 59. At the same time estimated B.I. on middle south slope is +3 or 62.
3. To estimate average burning index for a given number of hours at another location, read correction for proper aspect in column showing length of estimate in hours. Example: At 1600 B.I. in valley bottom is 55. Average B.I. for the next 3 hours on a middle north slope will be -9 or 46.

Table A-10. Correction to Valley Bottom burning index which will give average burning index in the upper one-third of a mountain slope for a given number of hours after measurements.

Time of B.I. Measurement	Correction Factor According to Time and Aspect															
	0 hour		1 hour		2 hours		3 hours		4 hours		5 hours		6 hours		7 hours		8 hours	
	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S
Morning																		
0600-0659	+ 5	+ 8	+ 4	+ 8	+ 3	+ 8	+ 1	+ 7	- 1	+ 6	- 3	+ 5	- 4	+ 4	- 5	+ 3	- 5	+ 3
0700-0759	+ 3	+ 8	+ 2	+ 8	- 1	+ 6	- 3	+ 5	- 4	+ 4	- 5	+ 3	- 6	+ 2	- 6	+ 2	- 7	+ 1
0800-0859	0	+ 7	- 3	+ 6	- 5	+ 4	- 6	+ 3	- 7	+ 2	- 7	+ 2	- 8	+ 1	- 8	0	- 9	0
0900-0959	- 6	+ 4	- 8	+ 2	- 8	+ 2	- 9	+ 1	- 9	0	- 9	0	- 9	- 1	- 9	- 1	- 9	- 1
Day																		
1000-1059	- 9	+ 1	-10	0	-10	0	-10	- 1	- 9	- 1	- 9	- 2	- 9	- 2	- 9	- 2	- 9	- 2
1100-1159	-10	0	-10	0	-10	- 1	-10	- 2	- 9	- 2	- 9	- 2	- 9	- 2	- 9	- 2	- 9	- 2
1200-1259	-10	- 1	-10	- 2	- 9	- 2	- 9	- 2	- 9	- 3	- 9	- 3	- 9	- 3	- 9	- 3	- 8	- 3
1300-1359	- 9	- 2	- 9	- 2	- 9	- 3	- 9	- 3	- 9	- 3	- 9	- 3	- 8	- 3	- 8	- 3	- 8	- 2
1400-1459	- 9	- 3	- 9	- 3	- 9	- 3	- 9	- 3	- 8	- 3	- 8	- 3	- 8	- 3	- 7	- 2	- 7	- 2
1500-1559	- 9	- 3	- 9	- 4	- 8	- 3	- 8	- 3	- 8	- 3	- 8	- 3	- 7	- 2	- 7	- 2	- 6	- 2
1600-1659	- 8	- 4	- 8	- 4	- 8	- 3	- 8	- 3	- 7	- 3	- 7	- 2	- 6	- 2	- 6	- 1	- 5	- 1
1700-1759	- 8	- 3	- 8	- 3	- 8	- 3	- 7	- 2	- 7	- 2	- 6	- 2	- 5	- 1	- 5	0	- 4	0
Evening																		
1800-1859	- 8	- 3	- 8	- 2	- 7	- 2	- 6	- 2	- 5	- 1	- 5	- 1	- 4	0	- 3	0	- 3	+ 1
1900-1959	- 7	- 2	- 7	- 2	- 6	- 1	- 5	- 1	- 4	0	- 3	0	- 3	+ 1	- 2	+ 1	- 2	+ 2
2000-2059	- 6	- 2	- 5	- 1	- 4	0	- 3	0	- 3	+ 1	- 2	+ 1	- 1	+ 2	- 1	+ 2	- 1	+ 3
2100-2159	- 4	0	- 3	0	- 2	+ 1	- 2	+ 2	- 1	+ 2	- 1	+ 2	0	+ 3	0	+ 3	+ 1	+ 4
Night																		
2200-2259	- 2	+ 1	- 2	+ 2	- 1	+ 2	- 1	+ 2	0	+ 3	0	+ 4	+ 1	+ 4	+ 1	+ 4	+ 2	+ 5
2300-2359	- 1	+ 2	- 1	+ 2	0	+ 3	+ 1	+ 4	+ 1	+ 4	+ 1	+ 4	+ 2	+ 5	+ 2	+ 5	+ 2	+ 5
2400-2459	0	+ 3	+ 1	+ 4	+ 1	+ 4	+ 1	+ 4	+ 2	+ 5	+ 2	+ 5	+ 2	+ 6	+ 3	+ 6	+ 2	+ 6
0100-0159	+ 1	+ 4	+ 2	+ 4	+ 2	+ 5	+ 2	+ 5	+ 2	+ 6	+ 3	+ 6	+ 3	+ 6	+ 3	+ 6	+ 2	+ 6
0200-0259	+ 2	+ 5	+ 2	+ 6	+ 2	+ 6	+ 3	+ 6	+ 3	+ 6	+ 3	+ 7	+ 3	+ 7	+ 2	+ 6	0	+ 6
0300-0359	+ 2	+ 6	+ 3	+ 6	+ 3	+ 6	+ 4	+ 7	+ 3	+ 7	+ 3	+ 7	+ 2	+ 7	0	+ 6	- 1	+ 5
0400-0459	+ 3	+ 6	+ 4	+ 7	+ 4	+ 7	+ 4	+ 7	+ 3	+ 7	+ 2	+ 7	0	+ 6	- 1	+ 5	- 2	+ 4
0500-0559	+ 4	+ 7	+ 5	+ 8	+ 4	+ 8	+ 3	+ 8	+ 1	+ 7	- 1	+ 6	- 2	+ 5	- 3	+ 4	- 4	+ 4

TO USE TABLE:

1. Select time of burning index measurement in valley bottom.
2. To estimate burning index at another location at same time measurement is taken, read correction for proper aspect in 0 hour column. Example: At 1600 B.I. in valley bottom is 59. At the same time estimated B.I. on upper south slope is -4 or 55.
3. To estimate average burning index for a given number of hours at another location, read correction for proper aspect in column showing length of estimate in hours. Example: At 1600 B.I. in valley bottom is 55. Average B.I. for the next 3 hours on an upper north slope will be -8 or 47.

Table A-11. Correction to Mountain Top burning index which will give average burning index on the middle one-third of a mountain slope for a given number of hours after measurement.

Time of B.I. Measurement	Correction Factor According to Time and Aspect															
	0 hour		1 hour		2 hours		3 hours		4 hours		5 hours		6 hours		7 hours		8 hours	
	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S
Morning																		
0600-0659	- 3	+ 6	- 4	+ 6	- 5	+ 6	- 6	+ 7	- 7	+ 7	- 8	+ 7	- 8	+ 7	- 8	+ 8	- 8	+ 8
0700-0759	- 5	+ 6	- 6	+ 6	- 7	+ 7	- 8	+ 8	- 9	+ 8	- 9	+ 8	- 9	+ 8	- 9	+ 8	- 9	+ 8
0800-0859	- 7	+ 7	- 9	+ 8	- 9	+ 8	-10	+ 8	-10	+ 8	-10	+ 8	- 9	+ 8	- 9	+ 8	- 9	+ 8
0900-0959	-10	+ 8	-10	+ 8	-10	+ 8	-10	+ 8	-10	+ 8	-10	+ 8	- 9	+ 8	- 9	+ 8	- 9	+ 8
Day																		
1000-1059	-10	+ 9	-10	+ 8	-10	+ 8	-10	+ 8	-10	+ 8	- 9	+ 8	- 9	+ 8	- 9	+ 8	- 8	+ 7
1100-1159	-11	+ 8	-10	+ 8	-10	+ 8	- 9	+ 8	- 9	+ 8	- 9	+ 8	- 8	+ 7	- 8	+ 7	- 8	+ 7
1200-1259	-10	+ 8	-10	+ 8	- 9	+ 8	- 9	+ 8	- 8	+ 8	- 8	+ 7	- 8	+ 7	- 7	+ 7	- 7	+ 7
1300-1359	- 9	+ 8	- 9	+ 8	- 8	+ 8	- 8	+ 8	- 8	+ 7	- 7	+ 7	- 7	+ 7	- 6	+ 7	- 6	+ 6
1400-1459	- 8	+ 8	- 8	+ 8	- 8	+ 7	- 8	+ 7	- 7	+ 7	- 7	+ 6	- 6	+ 6	- 6	+ 6	- 5	+ 6
1500-1559	- 8	+ 7	- 7	+ 7	- 7	+ 7	- 6	+ 6	- 6	+ 6	- 5	+ 6	- 5	+ 6	- 4	+ 6	- 4	+ 5
1600-1659	- 6	+ 7	- 6	+ 6	- 6	+ 6	- 6	+ 6	- 5	+ 6	- 4	+ 6	- 4	+ 5	- 4	+ 5	- 4	+ 5
1700-1759	- 7	+ 6	- 6	+ 6	- 5	+ 6	- 4	+ 6	- 4	+ 5	- 4	+ 5	- 3	+ 5	- 3	+ 5	- 3	+ 4
Evening																		
1800-1859	- 5	+ 6	- 4	+ 6	- 4	+ 6	- 3	+ 5	- 3	+ 5	- 3	+ 5	- 3	+ 4	- 3	+ 4	- 3	+ 4
1900-1959	- 4	+ 5	- 3	+ 6	- 3	+ 5	- 2	+ 5	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 2	+ 4
2000-2059	- 2	+ 6	- 2	+ 5	- 2	+ 5	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 2	+ 4
2100-2159	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 2	+ 3	- 2	+ 3	- 2	+ 3	- 2	+ 4	- 2	+ 4
Night																		
2200-2259	- 2	+ 4	- 3	+ 4	- 2	+ 3	- 2	+ 3	- 2	+ 3	- 2	+ 3	- 2	+ 4	- 2	+ 4	- 3	+ 4
2300-2359	- 2	+ 3	- 2	+ 3	- 2	+ 3	- 2	+ 3	- 2	+ 3	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 3	+ 4
2400-2459	- 2	+ 3	- 2	+ 2	- 2	+ 3	- 2	+ 4	- 2	+ 4	- 2	+ 4	- 3	+ 4	- 3	+ 4	- 3	+ 5
0100-0159	- 2	+ 3	- 2	+ 3	- 2	+ 3	- 2	+ 4	- 3	+ 4	- 3	+ 5	- 3	+ 5	- 4	+ 5	- 4	+ 5
0200-0259	- 3	+ 3	- 3	+ 4	- 3	+ 4	- 3	+ 5	- 3	+ 5	- 3	+ 5	- 4	+ 5	- 4	+ 6	- 5	+ 6
0300-0359	- 3	+ 4	- 2	+ 5	- 3	+ 5	- 3	+ 5	- 3	+ 6	- 4	+ 6	- 5	+ 6	- 5	+ 6	- 6	+ 7
0400-0459	- 2	+ 6	- 2	+ 6	- 3	+ 6	- 3	+ 6	- 4	+ 6	- 5	+ 6	- 6	+ 7	- 6	+ 7	- 7	+ 7
0500-0559	- 3	+ 6	- 3	+ 6	- 4	+ 6	- 5	+ 6	- 6	+ 7	- 6	+ 7	- 7	+ 7	- 7	+ 7	- 8	+ 7

TO USE TABLE:

1. Select time of burning index measurement on mountain top.
2. To estimate burning index on a middle slope at the same time the mountain top measurement is taken, read correction opposite selected time in 0 hour column for aspect desired. Example: At 1600 burning index on mountain top is 50. The estimated 1600 correction for middle south slopes is +7, and the burning index therefore is 57.
3. To estimate average burning index on a middle slope for a given number of hours after measurement at a mountain top station, read correction opposite time of measurement and in column headed by number of hours for which average burning index is desired. Example: At 1100 burning index on mountain top is 40. The estimated 1100 correction to give average burning index for the next five hours on a middle north slope is -9; hence, average burning index will be 31.

Table A-12. Correction to Mountain Top burning index which will give average burning index on the lower one-third of a mountain slope for a given number of hours after measurement.

Time of B.I. Measurement	Correction Factor According to Time and Aspect															
	0 hour		1 hour		2 hours		3 hours		4 hours		5 hours		6 hours		7 hours		8 hours	
	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S
Morning																		
0600-0659	-12	- 4	-14	- 4	-15	- 4	-15	- 3	-15	- 2	-16	- 2	-16	- 1	-15	0	-15	+ 1
0700-0759	-15	- 5	-16	- 4	-16	- 3	-16	- 2	-16	- 1	-16	0	-16	+ 1	-16	+ 1	-15	+ 2
0800-0859	-17	- 4	-17	- 2	-17	- 1	-16	0	-16	+ 1	-16	+ 2	-16	+ 2	-15	+ 3	-15	+ 3
0900-0959	-17	- 1	-16	0	-16	+ 1	-16	+ 2	-16	+ 3	-15	+ 3	-15	+ 4	-15	+ 4	-15	+ 4
Day																		
1000-1059	-16	+ 2	-16	+ 2	-16	+ 3	-15	+ 4	-15	+ 4	-15	+ 4	-15	+ 5	-14	+ 5	-14	+ 5
1100-1159	-16	+ 3	-16	+ 4	-15	+ 4	-15	+ 4	-15	+ 5	-14	+ 5	-14	+ 5	-14	+ 5	-14	+ 5
1200-1259	-15	+ 4	-14	+ 5	-14	+ 5	-14	+ 5	-14	+ 5	-14	+ 5	-14	+ 5	-14	+ 5	-13	+ 5
1300-1359	-14	+ 5	-14	+ 6	-14	+ 6	-14	+ 6	-14	+ 6	-14	+ 5	-14	+ 5	-14	+ 5	-14	+ 4
1400-1459	-14	+ 6	-14	+ 6	-14	+ 6	-14	+ 6	-14	+ 5	-14	+ 5	-14	+ 5	-14	+ 4	-14	+ 4
1500-1559	-14	+ 6	-14	+ 6	-14	+ 6	-14	+ 5	-14	+ 5	-14	+ 4	-14	+ 4	-14	+ 4	-13	+ 3
1600-1659	-13	+ 6	-14	+ 6	-13	+ 5	-13	+ 4	-13	+ 4	-13	+ 4	-13	+ 3	-13	+ 2	-13	+ 2
1700-1759	-14	+ 5	-14	+ 5	-14	+ 4	-14	+ 4	-14	+ 3	-14	+ 3	-13	+ 2	-13	+ 2	-13	+ 1
Evening																		
1800-1859	-13	+ 4	-14	+ 4	-14	+ 3	-14	+ 3	-13	+ 2	-13	+ 2	-13	+ 1	-13	+ 1	-13	0
1900-1959	-14	+ 3	-14	+ 3	-14	+ 2	-14	+ 2	-13	+ 1	-13	+ 1	-13	0	-13	0	-13	- 1
2000-2059	-13	+ 3	-14	+ 2	-13	+ 1	-13	+ 1	-13	0	-13	0	-13	- 1	-12	- 1	-12	- 1
2100-2159	-14	+ 1	-14	0	-13	0	-13	0	-13	- 1	-13	- 1	-12	- 2	-12	- 2	-12	- 2
Night																		
2200-2259	-13	0	-13	0	-13	- 1	-13	- 2	-12	- 2	-12	- 2	-12	- 2	-12	- 2	-12	- 3
2300-2359	-13	- 1	-13	- 2	-13	- 2	-12	- 2	-12	- 3	-12	- 3	-11	- 3	-12	- 3	-12	- 3
2400-2459	-13	- 2	-12	- 2	-12	- 3	-12	- 3	-11	- 3	-11	- 3	-11	- 3	-12	- 3	-12	- 3
0100-0159	-12	- 3	-12	- 3	-11	- 3	-11	- 3	-11	- 3	-11	- 3	-12	- 4	-12	- 4	-13	- 3
0200-0259	-11	- 3	-11	- 4	-11	- 3	-10	- 3	-11	- 3	-12	- 4	-12	- 4	-13	- 3	-13	- 3
0300-0359	-11	- 4	-10	- 4	-10	- 3	-11	- 4	-12	- 4	-12	- 4	-13	- 3	-13	- 3	-14	- 2
0400-0459	-10	- 3	-10	- 3	-11	- 3	-12	- 4	-13	- 4	-14	- 3	-14	- 3	-14	- 2	-14	- 1
0500-0559	-10	- 3	-11	- 4	-12	- 4	-14	- 4	-14	- 3	-14	- 2	-15	- 2	-15	- 1	-15	0

TO USE TABLE:

1. Select time of burning index measurement on mountain top.
2. To estimate burning index on a lower slope at the same time the mountain top measurement is taken, read correction opposite selected time in 0 hour column for aspect desired. Example: At 1600 burning index on mountain top is 50. The estimated 1600 correction for lower south slopes is +6, and the burning index therefore is 56.
3. To estimate average burning index on a lower slope for a given number of hours after measurement at a mountain top station, read correction opposite time of measurement and in column headed by number of hours for which average burning index is desired. Example: At 1100 burning index on mountain top is 40. The estimated 1100 correction to give average burning index on a lower north slope for the next five hours is -14; hence, average burning index will be 26.

Table A-13. Correction to Mountain Top burning index which will give average burning index in valley bottoms for a given number of hours after measurement.

Time of B.I. Measurement	Correction Factor According to Time and Aspect								
	0 hour	1 hour	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours	8 hours
Morning									
0600-0659	-8	-8	-8	-7	-6	-5	-4	-3	-2
0700-0759	-8	-8	-6	-5	-4	-3	-2	-2	-1
0800-0859	-7	-6	-4	-3	-2	-2	-1	0	0
0900-0959	-4	-2	-2	-1	0	0	+1	+1	+1
Day									
1000-1059	-1	0	0	0	+1	+1	+2	+2	+2
1100-1159	0	0	+1	+2	+2	+2	+2	+2	+2
1200-1259	+1	+2	+2	+2	+3	+3	+3	+3	+3
1300-1359	+2	+2	+3	+3	+3	+3	+3	+3	+2
1400-1459	+3	+3	+3	+3	+3	+3	+3	+2	+2
1500-1559	+3	+4	+3	+3	+3	+3	+2	+2	+2
1600-1659	+4	+4	+3	+3	+3	+2	+2	+1	+1
1700-1759	+3	+3	+3	+2	+2	+2	+1	0	0
Evening									
1800-1859	+3	+2	+2	+2	+1	+1	0	0	-1
1900-1959	+2	+2	+1	+1	0	0	-1	-1	-2
2000-2059	+2	+1	0	0	-1	-1	-2	-2	-3
2100-2159	0	0	-1	-2	-2	-2	-3	-3	-4
Night									
2200-2259	-1	-2	-2	-2	-3	-4	-4	-4	-5
2300-2359	-2	-2	-3	-4	-4	-4	-5	-5	-5
2400-2459	-3	-4	-4	-4	-5	-5	-6	-6	-6
0100-0159	-4	-4	-5	-5	-6	-6	-6	-6	-6
0200-0259	-5	-6	-6	-6	-6	-7	-7	-6	-6
0300-0359	-6	-6	-6	-7	-7	-7	-7	-6	-5
0400-0459	-6	-7	-7	-7	-7	-7	-6	-5	-4
0500-0559	-7	-8	-8	-8	-7	-6	-5	-4	-4

TO USE TABLE:

1. Select time of burning index measurement on mountain top.
2. To estimate burning index in the valley bottoms at the same time the mountain top measurement is taken, read correction opposite selected time in 0 hour column. Example: At 1600 burning index on mountain top is 50. The estimated 1600 correction for valley bottom is +4, and the burning index therefore is 54.
3. To estimate average burning index in valley bottoms for a given number of hours after measurement at a mountain top station, read correction opposite time of measurement and in column headed by number of hours for which average burning index is desired. Example: At 1100 burning index on mountain top is 40. The estimated 1100 correction to give average valley bottom burning index for the next five hours is +2; hence, average burning index will be 42.

Table A-14. Correction to Mountain Top burning index which will give average burning index on north aspects of the upper one-third of a mountain slope for a given number of hours after measurement. 1/

Time of B.I. Measurement	Correction Factor According to Time and Aspect								
	0 hour	1 hour	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours	8 hours
Morning									
0600-0659	-3	-4	-5	-6	-7	-8	-8	-8	-7
0700-0759	-5	-6	-7	-8	-8	-8	-8	-8	-8
0800-0859	-7	-8	-9	-9	-9	-9	-8	-8	-8
0900-0959	-10	-10	-10	-10	-9	-9	-8	-8	-8
Day									
1000-1059	-10	-10	-10	-9	-8	-8	-8	-7	-7
1100-1159	-10	-10	-9	-8	-8	-7	-7	-7	-6
1200-1259	-9	-8	-7	-7	-7	-6	-6	-6	-6
1300-1359	-7	-6	-6	-6	-6	-6	-6	-5	-5
1400-1459	-6	-6	-6	-6	-5	-5	-5	-5	-5
1500-1559	-6	-6	-5	-5	-5	-5	-5	-4	-4
1600-1659	-5	-5	-5	-5	-5	-5	-4	-4	-4
1700-1759	-5	-5	-5	-5	-5	-4	-4	-4	-4
Evening									
1800-1859	-5	-5	-5	-4	-4	-4	-4	-4	-4
1900-1959	-5	-4	-4	-4	-4	-4	-4	-4	-3
2000-2059	-4	-4	-4	-4	-3	-3	-3	-3	-3
2100-2159	-4	-4	-3	-3	-3	-3	-3	-3	-3
Night									
2200-2259	-3	-3	-3	-3	-3	-3	-3	-3	-3
2300-2359	-3	-3	-3	-3	-3	-3	-3	-3	-3
2400-2459	-3	-3	-3	-3	-3	-3	-3	-3	-4
0100-0159	-3	-3	-3	-3	-3	-3	-3	-4	-4
0200-0259	-3	-3	-3	-3	-3	-3	-4	-5	-5
0300-0359	-3	-3	-3	-3	-3	-4	-5	-6	-6
0400-0459	-3	-3	-3	-4	-4	-5	-6	-6	-7
0500-0559	-3	-3	-4	-4	-6	-6	-7	-7	-7

1/ No correction required for south aspects. Conditions essentially the same as at mountain top.

TO USE TABLE:

1. Select time of burning index measurement on mountain top.
2. To estimate burning index on an upper north slope at the same time the mountain top measurement is taken, read correction opposite selected time in 0 hour column. Example: At 1600 burning index on mountain top is 50. The estimated 1600 correction for upper north slopes is -5, and the burning index is therefore 45.
3. To estimate average burning index on an upper north slope for a given number of hours after measurement at a mountain top station, read correction opposite time of measurement and in column headed by number of hours for which average burning index is desired. Example: At 1100 burning index on mountain top is 40. The estimated 1100 correction to give average burning index on an upper north slope for the next five hours is -7; hence, average burning index will be 33.

Table A-15. Cumulative Hourly Change in Burning Index 1/

Hour of B.I. Measurement	Hour for which B.I. is desired																							
	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
0000	-2	-3	-5	-8	-9	-10	-9	-6	-1	+4	+8	+10	+13	+15	+16	+15	+14	+12	+9	+7	+5	+4	+2	///
0100	///	-2	-4	-6	-8	-9	-8	-4	+1	+6	+9	+12	+15	+17	+18	+17	+15	+13	+10	+8	+7	+5	+3	+2
0200	+2	///	-2	-4	-6	-7	-6	-3	+2	+7	+11	+14	+17	+19	+20	+19	+17	+15	+13	+10	+8	+7	+5	+3
0300	+4	+2	///	-2	-4	-5	-4	-1	+5	+9	+13	+16	+19	+21	+22	+21	+19	+17	+15	+13	+11	+9	+7	+5
0400	+6	+4	+2	///	-2	-3	-2	+2	+7	+11	+15	+18	+21	+23	+24	+23	+21	+19	+17	+16	+12	+11	+9	+7
0500	+8	+6	+4	+2	///	-1	0	+4	+8	+13	+17	+19	+22	+25	+26	+25	+23	+21	+18	+16	+14	+13	+11	+9
0600	+9	+7	+5	+3	+1	///	+1	+4	+9	+14	+18	+20	+23	+26	+27	+26	+24	+21	+19	+17	+15	+14	+12	+10
0700	+7	+5	+3	+1	0	-1	///	+3	+8	+13	+16	+19	+22	+24	+25	+24	+23	+20	+18	+16	+14	+12	+10	+9
0800	+5	+3	+1	-1	-3	-4	-3	///	+5	+10	+13	+16	+19	+21	+23	+21	+19	+17	+15	+13	+11	+9	+7	+6
0900	-1	-2	-4	-7	-8	-9	-8	-4	///	+4	+8	+11	+14	+16	+17	+16	+14	+12	+10	+8	+6	+4	+2	+1
1000	-5	-7	-9	-11	-13	-14	-13	-10	-4	///	+3	+6	+9	+12	+12	+12	+9	+7	+5	+3	+1	0	-2	-4
1100	-9	-11	-13	-15	-17	-18	-17	-14	-8	-4	///	+3	+6	+8	+9	+8	+6	+4	+2	0	-2	-4	-6	-7
1200	-12	-14	-16	-18	-20	-21	-20	-17	-11	-7	-3	///	+3	+5	+6	+5	+3	+1	-1	-3	-5	-7	-9	-10
1300	-15	-17	-19	-21	-23	-24	-23	-20	-14	-10	-6	-3	///	+2	+3	+2	0	-2	-4	-6	-8	-10	-12	-13
1400	-17	-19	-21	-23	-25	-26	-25	-22	-16	-12	-8	-5	-2	///	+1	0	-2	-4	-6	-8	-10	-12	-14	-15
1500	-18	-20	-22	-23	-26	-27	-26	-23	-17	-13	-9	-6	-3	-1	///	-1	-3	-5	-7	-9	-11	-13	-15	-16
1600	-17	-19	-21	-22	-25	-26	-25	-22	-16	-12	-8	-5	-2	0	+1	///	-2	-4	-6	-8	-10	-12	-14	-15
1700	-15	-17	-19	-20	-23	-24	-23	-20	-14	-10	-6	-3	-1	+2	+3	+2	///	-2	-4	-6	-8	-10	-12	-13
1800	-13	-15	-17	-18	-21	-22	-21	-18	-12	-8	-4	-1	+1	+4	+5	+4	+2	///	-2	-4	-6	-8	-10	-11
1900	-10	-12	-14	-15	-18	-19	-18	-15	-9	-5	-1	+2	+4	+7	+8	+7	+5	+3	///	-1	-3	-5	-7	-8
2000	-8	-10	-12	-13	-16	-17	-16	-13	-7	-3	+1	+4	+6	+9	+10	+9	+7	+5	+2	///	-1	-3	-5	-6
2100	-7	-9	-11	-12	-15	-16	-15	-12	-6	-2	+2	+5	+7	+10	+11	+10	+8	+6	+3	+1	///	-2	-4	-5
2200	-5	-7	-9	-10	-13	-14	-13	-10	-4	0	+4	+7	+9	+12	+13	+12	+10	+8	+5	+3	+2	///	-2	-3
2300	-3	-5	-7	-8	-11	-12	-11	-8	-2	+2	+6	+9	+11	+14	+15	+14	+12	+10	+7	+5	+4	+2	///	0

1/ Based on average bi-hourly change during normal (settled) summer weather beginning on the fifth day in July on which burning index reached 30 or more. B.I. measured at 2300-foot clearcut station, Priest River Experimental Forest, July and August, 1936-1939.

Table A-17. Corrections which may be added to known Burning Index at a valley bottom station at any hour to obtain probable average B.I. for the following 1 to 8 hours.

Hour of the day	No. hours for which average B.I. is desired							
	1	2	3	4	5	6	7	8
	Correction to obtain average B.I.							
0100	-1	-2	-3	-4	-5	-5	-6	-5
0200	-1	-2	-3	-4	-4	-4	-4	-3
0300	-1	-2	-3	-3	-3	-2	-1	0
0400	-1	-2	-2	-2	0	+1	+3	+5
0500	-1	-1	0	+1	+3	+5	+7	+9
0600	0	+2	+3	+5	+8	+10	+11	+13
0700	+1	+3	+6	+8	+10	+12	+14	+15
0800	+2	+5	+7	+9	+11	+13	+14	+15
0900	+2	+4	+6	+8	+9	+11	+12	+12
1000	+2	+4	+5	+6	+8	+8	+9	+9
1100	+2	+3	+4	+5	+6	+6	+6	+6
1200	+2	+3	+4	+4	+4	+4	+3	+3
1300	+1	+2	+2	+2	+2	+1	0	-1
1400	+1	+1	0	-1	-2	-2	-4	-4
1500	0	-1	-2	-3	-4	-5	-6	-7
1600	-1	-2	-3	-4	-5	-6	-7	-8
1700	-1	-2	-4	-5	-6	-6	-7	-8
1800	-2	-2	-3	-4	-5	-6	-7	-8
1900	-1	-2	-3	-4	-5	-6	-6	-7
2000	-1	-2	-3	-4	-4	-5	-6	-7
2100	-1	-2	-3	-3	-4	-5	-6	-7
2200	-1	-2	-3	-3	-4	-5	-6	-7
2300	-1	-2	-2	-3	-4	-5	-6	-7
2400	-1	-2	-2	-3	-4	-5	-6	-6

Instructions for use:

1. Select hour for which B.I. in the valley bottom is known.
2. In appropriate column read correction to give average B.I. for desired number of hours in the future.
   Example: A special measurement shows that B.I. at a low station is 50 at 1000. Then average B.I. in the valley bottom from 1000 to 1500 (5-hour column) will be 50 + 8, or 58.

Table A-18. Cumulative hourly change in Burning Index at a mountain top station on an average midsummer day. 1/

Hour of B.I. Measurement	Hour for which B.I. is desired																						
	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
0000	-1	-2	-3	-4	-6	-6	-4	-1	+3	+4	+6	+8	+10	+11	+12	+10	+8	+6	+5	+4	+3	+2	+1	///
0100	///	-1	-2	-3	-5	-5	-3	0	+4	+5	+7	+9	+11	+12	+13	+11	+9	+7	+6	+5	+4	+3	+2	+1
0200	+1	///	-1	-2	-4	-4	-2	+1	+5	+6	+8	+10	+12	+13	+14	+12	+10	+8	+7	+6	+5	+4	+3	+2
0300	+2	+1	///	-1	-3	-3	-1	+2	+6	+7	+9	+11	+13	+14	+15	+13	+11	+9	+8	+7	+6	+5	+4	+3
0400	+3	+2	+1	///	-2	-2	0	+3	+7	+8	+10	+12	+14	+15	+16	+14	+12	+10	+9	+8	+7	+6	+5	+4
0500	+5	+4	+3	+2	///	0	+2	+5	+9	+10	+12	+14	+16	+17	+18	+16	+14	+12	+11	+10	+9	+8	+7	+6
0600	+5	+4	+3	+2	0	///	+2	+5	+9	+10	+12	+14	+16	+17	+18	+16	+14	+12	+11	+10	+9	+8	+7	+6
0700	+3	+2	+1	0	-2	-2	///	+3	+7	+8	+10	+12	+14	+15	+16	+14	+12	+10	+9	+8	+7	+6	+5	+4
0800	0	-1	-2	-3	-5	-5	-3	///	+4	+5	+7	+9	+11	+12	+13	+11	+9	+7	+6	+5	+4	+3	+2	+1
0900	-4	-5	-6	-7	-9	-9	-7	-4	///	+1	+3	+5	+7	+8	+9	+7	+5	+3	+2	+1	0	-1	-2	-3
1000	-5	-6	-7	-8	-10	-10	-8	-5	-1	///	+2	+4	+6	+7	+8	+6	+4	+2	+1	0	-1	-2	-3	-4
1100	-7	-8	-9	-10	-12	-12	-10	-7	-3	-2	///	+2	+4	+5	+6	+4	+2	0	-1	-2	-3	-4	-5	-6
1200	-9	-10	-11	-12	-14	-14	-12	-9	-5	-4	-2	///	+2	+3	+4	+2	0	-2	-3	-4	-5	-6	-7	-8
1300	-11	-12	-13	-14	-16	-16	-14	-11	-7	-6	-4	-2	///	+1	+2	0	-2	-4	-5	-6	-7	-8	-9	-10
1400	-12	-13	-14	-15	-17	-17	-15	-12	-8	-7	-5	-3	-1	///	+1	-1	-3	-5	-6	-7	-8	-9	-10	-11
1500	-13	-14	-15	-16	-18	-18	-16	-13	-9	-8	-6	-4	-2	-1	///	-2	-4	-6	-7	-8	-9	-10	-11	-12
1600	-11	-12	-13	-14	-16	-16	-14	-11	-7	-6	-4	-2	0	+1	+2	///	-2	-4	-5	-6	-7	-8	-9	-10
1700	-9	-10	-11	-12	-14	-14	-12	-9	-5	-4	-2	0	+2	+3	+4	+2	///	-2	-3	-4	-5	-6	-7	-8
1800	-7	-8	-9	-10	-12	-12	-10	-7	-3	-2	0	+2	+4	+5	+6	+4	+2	///	-1	-2	-3	-4	-5	-6
1900	-6	-7	-8	-9	-11	-11	-9	-6	-2	-1	+1	+3	+5	+6	+7	+5	+3	+1	///	-1	-2	-3	-4	-5
2000	-5	-6	-7	-8	-10	-10	-8	-5	-1	0	+2	+4	+6	+7	+8	+6	+4	+2	+1	///	-1	-2	-3	-4
2100	-4	-5	-6	-7	-9	-9	-7	-4	0	+1	+3	+5	+7	+8	+9	+7	+5	+3	+2	+1	///	-1	-2	-3
2200	-3	-4	-5	-6	-8	-8	-6	-3	+1	+2	+4	+6	+8	+9	+10	+8	+6	+4	+3	+2	+1	///	-1	-2
2300	-2	-3	-4	-5	-7	-7	-5	-2	+2	+3	+5	+7	+9	+10	+11	+9	+7	+5	+4	+3	+2	+1	///	-1

1/ Derived from Tables A-13 and A-15.

Table A-19. Corrections which may be added to known Burning Index at a mountain top station at any hour to obtain probable average B.I. for the following 1 to 8 hours.

Hour of the day	No. hours for which average B.I. is desired							
	1	2	3	4	5	6	7	8
	Correction to obtain average B.I.							
0100	0	-1	-2	-2	-3	-3	-3	-2
0200	0	-1	-2	-2	-2	-2	-1	0
0300	0	-1	-2	-2	-1	0	0	+1
0400	-1	-2	-1	-1	0	+2	+3	+4
0500	0	+1	+2	+3	+4	+5	+6	+7
0600	+1	+2	+4	+5	+6	+7	+9	+10
0700	+2	+3	+5	+6	+7	+8	+9	+10
0800	+2	+3	+4	+5	+6	+7	+8	+8
0900	+1	+1	+2	+3	+4	+5	+5	+5
1000	+1	+2	+3	+4	+5	+5	+5	+5
1100	+1	+2	+3	+4	+4	+4	+3	+3
1200	+1	+2	+2	+2	+2	+2	+1	0
1300	0	+1	+1	0	0	-1	-2	-2
1400	0	0	0	-1	-2	-3	-4	-4
1500	-1	-2	-3	-4	-5	-5	-6	-6
1600	-1	-2	-3	-4	-4	-5	-5	-6
1700	-1	-2	-2	-3	-3	-4	-4	-5
1800	0	-1	-2	-2	-3	-3	-4	-4
1900	0	-1	-2	-2	-3	-3	-4	-4
2000	0	-1	-2	-2	-3	-3	-4	-4
2100	0	-1	-2	-2	-3	-3	-4	-4
2200	0	-1	-2	-2	-3	-3	-4	-4
2300	0	-1	-2	-2	-3	-3	-4	-4
2400	0	-1	-2	-2	-3	-3	-3	-3

Instructions for use:

1. Select hour for which B.I. on the mountain top is known.
2. In appropriate column read correction to give average B.I. for desired number of hours in the future.
   Example: A special measurement shows that B.I. at 1000 is 45 at a lookout. Then average B.I. on the mountain top from 1000 to 1500 (5-hour column) will be 45 + 5, or 50.